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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/612,615

07/01/2003

Hiroyasu Inoue

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08/25/2006

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EXAMINER

CHEN, TIANJIE

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/612,615

Applicant(s)

INOUE ET AL.

Examiner

Tianjie Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,5,7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,7 and 9-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### ***Non-Final Rejection (RCE)***

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/06/2006 has been entered. Claims 1, 5, 7, 9-12 are pending.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, 7, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aratani et al (US 6,788,635) in view of Takaoka et al (JP 60-160036A).

Claim 1, Aratani et al shows an optical recording medium in Fig. 6 including a substrate 31, a light transmission layer 1 and a plurality of recording layers 2 and 32 between the substrate and the light transmission layer and capable of recording data in the plurality of recording layers and reproducing data recorded in the plurality of recording layers by projecting a laser beam via the light transmission layer onto the plurality of recording layers (Fig. 6; column 10, line 50 to column 11, line 4), wherein

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data recorded in and reproduced from recording layer 32, which is farthest from the light transmission layer 1, by projecting the laser beam thereonto via the light transmission layer and at least one recording layer 2 other than the farthest recording layer 32 and the at least one recording layer other than a farthest recording layer from the light transmission layer includes a reflective film 3 containing Ag as a primary component and additive is added, wherein C is used as an additive in Ag (Column 10, lines 18-28).

Aratani et al fails to show each of the plurality of recording layers includes a first recording film containing one kind of element selected from a group consisting of Si, Ge, Sn, Mg, C, Al, Zn, In, Cu, and Bi as a primary component and a second recording film disposed in the vicinity of the first recording film and containing one kind of element from a group consisting of Cu, C, Al, Zn, Si, and Ag and different from the element contained in the first recording film as a primary component- and the element contained in the first recording film as a primary component and the element contained in the second recording film as a primary component are mixed when the first recording film and the second recording film are irradiated with the laser beam. thereby forming a record mark .

Takaoka et al shows an optical recording medium, wherein the recording layer 15 includes a first recording film 13 and 14 (CONSTITUTION section), wherein one contains Ge, as a primary component and other one disposed in the vicinity of the first recording film and contains Al (P. 246, right section, lines 6-12; English translation is not attached. It is assumed that Japanese inventor of this Application can read the reference), which is different from the element contained in the first recording film as a primary component, and the element contained in the first recording film as a primary

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component and the element contained in the second recording film as a primary component are mixed when the first recording film and the second recording film are irradiated with the laser beam. thereby forming a record mark (CONSTITUTION section); and teaches that use of this recording structure can overcome the problem of low sensitivity, the instability of the boundary between the recorded and unrecorded portions, and low lifetime (p, 244, right column line 18 to left bottom column, line 2). One of ordinary skill in the art would have been motivated to replace the recording layer in Aratani et al's device by the recording layer taught by Takaoka et al for overcoming the problems as described.

Claim 5, Aratani et al teaches the reflective film included in the at least one recording layer contains 0.5 atomic % to 5.0 atomic % of C.

Claim 7, Aratani et al teaches that the reflective film included in the at least one recording layer contains 1.0 atomic % to 4.0 atomic % of C.

Claim 9, Aratani et al teaches that the reflective film included in the at least one recording layer contains about 2.5 atomic % of C.

Claim 12, Takaoka et al shows that the first recording film and the second recording film are formed so that a total thickness thereof is 2 nm to 40 nm (P. 245, right column lines 13-18).

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3. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aratani et al and Takaoka as applied to claims 1 and 9 above, and further in view of Flynn (US 2003/0165111).

Claims 10 and 11, Aratani et al and Takaoka et al show an optical recording medium as described above, but fails to show the light transmission layer (or substrate) has a thickness of 30  $\mu\text{m}$  to 200  $\mu\text{m}$ .

Flynn shows an optical recording medium, wherein the (light transmission layer) may have a thickness of 0.1 mm (100  $\mu\text{m}$ ) to 1.5 mm.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to set the thickness of light transmission layer thickness as taught by Flynn in the range 0.1 to 1.5 mm thus expanding the thickness range to be chosen.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is 571-272-7570. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**TIANJIE CHEN**  
**PRIMARY EXAMINER**